

(4) Portable cargo lights furnished by the employer for use aboard vessels shall be listed as approved for marine use by the U.S. Coast Guard or by a nationally recognized testing laboratory (see § 1910.7).

(e) *Entry into darkened areas.* Employees shall not be permitted to enter dark holds, compartments, decks or other spaces without a flashlight or other portable light. The use of matches or open flames is prohibited.

§ 1918.93 Hazardous atmospheres and substances (See also § 1918.2).

(a) *Purpose and scope.* This section covers areas in which the employer knows, or has reason to believe, that a hazardous atmosphere or substance may exist, except where one or more of the following sections apply: § 1918.94(a), Carbon monoxide; § 1918.94(b), Fumigated grains; § 1918.94(c), Fumigated tobacco; § 1918.94(d), Other fumigated cargoes; § 1918.94(e), Catch of menhaden and similar species of fish.

(b) *Determination of the hazard.* When the employer knows, or has reason to believe, that a space on a vessel contains or has contained a hazardous atmosphere, a designated and appropriately equipped person shall test the atmosphere prior to employee entry to detect whether a hazardous atmosphere exists.

(c) *Testing during ventilation.* When mechanical ventilation is used to maintain a safe atmosphere, tests shall be made by a designated person to ensure that the atmosphere is not hazardous.

(d) *Entry into hazardous atmospheres.* Only designated persons shall enter hazardous atmospheres, in which case the following provisions shall apply:

(1) Persons entering a space containing a hazardous atmosphere shall be protected by respiratory and emergency protective equipment meeting the requirements of subpart J of this part;

(2) Persons entering a space containing a hazardous atmosphere shall be instructed about the hazards, precautions to be taken, and the use of protective and emergency equipment. Standby observers, similarly equipped and instructed, shall continuously

monitor the activity of employees within such space;

(3) Except in emergency or rescue operations, employees shall not enter any atmosphere identified as flammable or oxygen-deficient (less than 19.5% oxygen). Persons who may be required to enter flammable or oxygen-deficient atmospheres in emergency operations shall be instructed in the dangers attendant to those atmospheres and be instructed in the use of self-contained breathing apparatus which shall be used for entry.

(4) To prevent inadvertent employee entry into spaces identified as having hazardous, flammable or oxygen-deficient atmospheres, appropriate warning signs or equivalent means shall be posted at all means of access to those spaces.

(e) *Asbestos cargo leak.* When the packaging of asbestos cargo leaks, spillage shall be cleaned up by designated employees protected from the harmful effects of asbestos as required by § 1910.1001 of this chapter.

§ 1918.94 Ventilation and atmospheric conditions (See also § 1918.2, definitions of Hazardous cargo, materials, substance or atmosphere and Ro-Ro operations).

(a) *Ventilation with respect to carbon monoxide.* (1) When internal combustion engines exhaust into a hold, intermediate deck, or any other compartment, the employer shall ensure that the atmosphere is tested as frequently as needed to prevent carbon monoxide (CO) concentrations from exceeding allowable limits. Such tests shall be made in the area in which employees are working by persons competent in the use of the test equipment and procedures. If operations are in a deep tank or refrigerated compartment, the first test shall be made within one half hour of the time the engine starts. To decide the need for further testing, the initial test in all other cargo handling areas shall be taken no later than one hour after the time the engine starts.

(i) The CO content of the atmosphere in a compartment, hold, or any enclosed space shall be maintained at not more than 50 parts per million (ppm) (0.005%) as an eight hour average area level and employees shall be removed